

REMARKS

At the time of the Office Action dated October 15, 2009, claims 1, 3, 4, 6, 9-13, 15, 16, and 20-22 were pending in this application. In this Amendment, claims 1 and 13 have been amended, and claims 9 and 20 cancelled. Care has been exercised to avoid the introduction of new matter. Support for the amendments to claims 1 and 13 can be found in, for example, claims 9 and 20, and page 23, lines 19-23 of the specification.

Claims 1, 3, 4, 6, 10-13, 15, 16, 21, and 22 are now active in this application, of which claims 1 and 13 are independent.

Claim Rejections—35 U.S.C. § 103

Claims 1, 3, 4, 6, 9-11, 13, 15, 16, 20, and 21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Sakata et al. (U.S. Patent Application Publication No. 2001/0008295, hereinafter “Sakata”) in view of Kloppel et al. (U.S. Patent Application Publication No. 2003/0170449, hereinafter “Kloppel”), Kataoka et al. (U.S. Patent No. 6,133,522, hereinafter “Kataoka”), and Yamazaki (U.S. Patent No. 4,746,962, hereinafter “Yamazaki”), and further in view of Minoru (JP 2002-305212). *See* paragraph 4 of the Office Action. Claims 1, 3, 4, 6, 9-11, 13, 15, 16, 20, and 21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Sakata in view of Kataoka, Yamazaki, and Kawai (Japanese Patent Application No. JP 58-56479, hereinafter “Kawai”) and further in view of Minoru. *See* paragraph 6 of the Office Action. Claims 1, 3, 4, 6, 9-11, 13, 15, 16, 20, and 21 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Sakata in view of Huang (U.S. Patent Application Publication No. 2004/0087252), Kataoka, and Yamazaki, and further in view of Minoru. *See* paragraph 8 of the Office Action.

(1) Sakata, Kloppel, Kataoka, Yamazaki, and Minoru, (2) Sakata, Kataoka, Yamazaki, Kawai, and Minoru, and (3) Sakata, Huang, Kataoka, Yamazaki, and Minoru, individually or in combination, do not disclose or suggest a photovoltaic device including all the limitations as recited in independent claims 1 and 13. With respect to independent claim 1, the applied combination of the references does not teach, among other things, “the resin binder consists of urethane resin and the epoxy resin,” as recited in the claim.

Kataoka describes as follows: “The conductive paste usually used which are obtained by dispersing fine powder of silver, gold, copper, nickel, or carbon in a binder polymer. The binder polymer is selected, for example, from polyester epoxy, acrylic, alkyd, polyvinyl acetate, rubber, urethane, and phenol resins” (column 9, lines 24-29). It is thus apparent that Kataoka simply proposes a list of components of a binder resin. That is, the reference does not teach the claimed binder resin containing only the epoxy resin and the urethane resin.

Minoru in the English abstract describes as follows:

This mounting paste for a semiconductor includes (A) bisphenol-type epoxy resin, (B) urethane prepolymer where isocyanate equivalent is 1000 or higher, (C) hydrazide (for example, bisphenol A ether dicarboxylic acid hydrazide) and dicyandiamide, and (D) silver powder as mandatory components, and where the resin components of [(A) + (B)] is mixed by 10-40 wt. %, the hydrazide of the hardener (C) by 1-10 wt. %, the dicyandiamide of the hardener (C) by 1-10 wt. %, and the silver powder (D) by 20-75 wt. % with respect to the whole.

As described in the abstract of Minoru, the reference requires a hardeners such as hydrazide and dicyandiamide for a binder. Accordingly, Minoru does not teach the claimed resin binder containing only the epoxy resin and the urethane resin.

Sakata, Kloppel, Yamazaki, Kawai, and Huang are silent on, among other things, the claimed binder resin containing only the epoxy resin and the urethane resin.

Based on the foregoing, (1) Sakata, Kloppel, Kataoka, Yamazaki, and Minoru, (2) Sakata, Kataoka, Yamazaki, Kawai, and Minoru, and (3) Sakata, Huang, Kataoka, Yamazaki, and Minoru, individually or in combination, do not disclose or suggest a photovoltaic device including all the limitations as recited in independent claim 1. The above discussion is applicable to independent claim 13 at least because the claim includes limitations similar to the above-discussed limitations of claim 1. Dependent claims 3, 4, 6-8, 10, 11, 15, 16, 18, 19, and 21 are also patentably distinguishable over the cited references. It is noted that the rejection of claims 9 and 20 has been rendered moot by the cancellation of those claims. Applicants, therefore, respectfully solicit withdrawal of the rejection of the claims and favorable consideration thereof.

Claims 12 and 22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Sakata in view of Kloppel, Kataoka, Yamazaki, and Minoru, and further in view of Morizane et al. (U.S. Patent Application Publication No. 2001/0045505, hereinafter "Morizane"). *See* paragraph 5 of the Office Action. Claims 12 and 22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Sakata in view of Kataoka, Yamazaki, Kawai, and Minoru, and further in view of Morizane. *See* paragraph 7 of the Office Action. Claims 12 and 22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Sakata in view of Huang, Kataoka, Yamazaki, and Minoru, and further in view of Morizane. *See* paragraph 9 of the Office Action.

Claim 12 depends on independent claim 1, and claim 22 depends on independent claim 13. Applicants thus incorporate herein the arguments made in response to the rejections of independent claims 1 and 13 under 35 U.S.C. § 103 for obviousness as predicted upon (1) Sakata, Kloppel, Kataoka, Yamazaki, and Minoru, (2) Sakata, Kataoka, Yamazaki, Kawai, and Minoru,

and (3) Sakata, Huang, Kataoka, Yamazaki, and Minoru. The Examiner's additional comments and reference to Morizane do not cure the deficiencies of the applied combinations of the references. Applicants, therefore, respectfully solicit withdrawal of the rejection of the claims and favorable consideration thereof.

Conclusion

Accordingly, it is urged that the application is in condition for allowance, an indication of which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



Tomoki Tanida
Registration No. 60,453

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 TT:amz
Facsimile: 202.756.8087
Date: January 15, 2010

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